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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/090,756	03/06/2002	Tadashi Sasaki	0879-0378P	5208

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EXAMINER	
LAM, HUNG H	

ART UNIT	PAPER NUMBER
2615	

DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/090,756	SASAKI, TADASHI	
	Examiner	Art Unit	
	Hung H. Lam	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04/13/05*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 March 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendments, filed on 04/13/2005, have been entered and made of record. Claims 3-10 are added. Claims 1-10 are pending.

Response to Arguments

2. Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto (US-4,414,575) in view of Yukawa (US-6,219,468).

It is noted that the USPTO considers the Applicant's "one of" language to be anticipated by any reference containing one of the subsequent corresponding elements.

With regarding to **claim 1**, Yamamoto discloses a focusing status detecting apparatus which detects a focusing status of a taking lens with respect to an image pickup device for image-output of a camera that obtains an image to be outputted, the focusing status detecting apparatus determining that the focusing status is one of front focus, rear focus, and in focus, the focusing status detecting apparatus comprising:

a plurality of image pickup devices (Fig. 2; sensors 21,31,41) for detecting the focusing status which detect the focusing status, the plurality of image pickup devices receiving subject light incident through the taking lens with different optical path lengths (Col. 2, lines 60-67; col. 3, lines 8-17; Fig. 2 shows that different optical paths are transmitted to sensors 31, 41, and 21), a focusing evaluation value being obtained according to a high frequency component of each of images (HPFs 22, 32, 42) obtained by the plurality of image pickup devices for detecting the focusing status (Figs. 2-3, controller 50; col. 3, lines 24-25; col. 3, lines 54-66; Tw evaluation value is obtained in response to Tq, Tp, Tr signals), the focusing status being determined according to the obtained focusing evaluation value (col. 3, lines 54-68 - col. 4, lines 1-60);

wherein a number of pixels of the plurality of image pickup devices for detecting the focusing status (31,41) is smaller than a number of pixels of the image pickup device for image-output (Fig. 2; Image pickup 21; col. 3, lines 1-8; it is noted that the sizes of sensors 31, and 41 are much smaller than the size of the image sensor 21; therefore, the number of pixels of the sensors 31 and 41 must be smaller than the number of pixels of sensor 21).

However, Yamamoto fails to explicitly disclose a focusing status detecting apparatus wherein of the digital signals of the images obtained by the image pickup devices for detecting focusing status only digital signals corresponding to pixels within a predetermined focus area

are extracted, so that the focusing status is detected within a frame range smaller than the entire frame range of the image to be outputted obtained by the image pickup device for image-output.

In the same field of endeavor, Yukawa teaches a plurality of area sensors (1-2) wherein only a small portion of the area sensor is used as a line sensor for auto focus detection (Figs. 1, 7, and 17A-17D; focus area 44; Col. 1, Ln. 65-67 –Col. 2, Ln. 1-3; Col. 14, Ln. 45-58; Col. 15, Ln. 1-50). Yukawa further teaches that focus area (line sensor) can be moved across the sensor in order to acquire the most sufficient contrast area for performing focus detection (Figs. 17A-17D; Col. 16, Ln. 30-50). In light of the teaching from Yukawa, it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the line sensor (31 and 41) of Yamamoto with the area sensors as taught by Yukawa in order to utilize only a small portion of the area sensor as a dynamic line sensor which can be moved around. The modifications thus prevent saturation of the area used for automatic focusing and provides an improve focus detection wherein only the most sufficient contrast area is used for focus detection (Yukawa; Col. 16; Ln. 30-50).

With regarding to **claim 2**, Yamamoto discloses a focusing status detecting apparatus which detects a focusing status of a taking lens with respect to an image pickup device for image-output of a camera that obtains an image to be outputted, the focusing status detecting apparatus determining that the focusing status is one of front focus, rear focus, and in focus, the focusing status detecting apparatus comprising:

a plurality of image pickup devices (Fig. 2; sensors 21,31,41) for detecting the focusing status which detect the focusing status, the plurality of image pickup devices receiving subject light incident through the taking lens with different optical path lengths (Fig. 2; col. 2, lines 60-

67; col. 3, lines 8-17; F ig. 2 shows that different optical paths are transmitted to sensors 31, 41, and 21), a focusing evaluation value being obtained according to a high frequency component of each of images (Fig. 2, HPFs 22, 32, 42) obtained by the plurality of image pickup devices for detecting the focusing status (Figs. 2-3, controller 50; col. 3, lines 24-25; col. 3, lines 54-66; Tw evaluation value is obtained in response to Tq, Tp, Tr signals), the focusing status being determined according to the obtained focusing evaluation value (col. 3, lines 54-68 - col. 4, lines 1-60);

wherein an image pickup size of the plurality of image pickup devices (31,41) for detecting the focusing status is smaller than an image pickup size of the image pickup device for image-output (Fig. 2; Image pickup 21; col. 3, lines 1-8; it is noted that the sizes of sensors 31, and 41 are much smaller than the size of the image sensor 21; therefore, the number of pixels of the sensors 31 and 41 must be smaller than the number of pixels of sensor 21).

However, Yamamoto fails to explicitly disclose a focusing status detecting apparatus wherein of the digital signals of the images obtained by the image pickup devices for detecting focusing status only digital signals corresponding to pixels within a predetermined focus area are extracted, so that the focusing status is detected within a frame range smaller than the entire frame range of the image to be outputted obtained by the image pickup device for image-output.

In the same field of endeavor, Yukawa teaches a plurality of area sensors (1-2) wherein only a small portion of the area sensor is used as a line sensor for auto focus detection (Figs. 1, 7, and 17A-17D; focus area 44; Col. 1, Ln. 65-67 –Col. 2, Ln. 1-3; Col. 14, Ln. 45-58; Col. 15, Ln. 1-50). Yukawa further teaches that focus area can be moved across the sensor in order to acquire the most sufficient contrast area for performing focus detection (Figs. 17A-17D; Col.

16, Ln. 30-50). In light of the teaching from Yukawa, it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the line sensor (31 and 41) of Yamamoto with the area sensors as taught by Yukawa in order to utilize only a small portion of the area sensor as a dynamic line sensor which can be moved around. The modifications thus prevent saturation of the area used for automatic focusing and provides an improve focus detection wherein only the most sufficient contrast area is used for focus detection (Yukawa; Col. 16; Ln. 30-50).

With regarding to **claim 3**, Yamamoto in view of Yukawa discloses the focusing status detecting apparatus wherein said image pickup devices for detecting focusing status detect a frame (the area sensors taught by Yamamoto and Yukawa must be capable of detecting a frame).

With regarding to **claim 4**, Yamamoto in view of Yukawa discloses the focusing status wherein said predetermined focus area comprises a central portion of said frame (Yukawa; focus area 44 can be moved to the central portion of the image sensors 1 and 2 as shown in Fig. 17D).

With regarding to **claim 5**, Yamamoto in view of Yukawa discloses the focusing status wherein said image pickup devices for detecting focusing status detect a frame (the area sensors taught by Yamamoto and Yukawa must be capable of detecting a frame).

With regarding to **claim 6**, Yamamoto in view of Yukawa discloses the focusing status wherein said predetermined focus area comprises a central portion said frame (Yukawa; focus area 44 can be moved to the central portion of the image sensors 1 and 2 as shown in Fig. 17D).

With regarding to **claim 7**, Yamamoto discloses a focusing status detecting apparatus which detects status of taking lens with respect first image focusing pickup device for image-output of a camera that obtains an image to be outputted, the focusing status detecting apparatus adapted determine whether the focusing status front focus, rear focus, focus, the focusing status detecting apparatus comprising:

the plurality of second image pickup devices (Fig. 2, sensor 31 and 41) receiving light incident through the taking lens with different optical path lengths (Fig. 2; col. 2, lines 60-67; col. 3, lines 8-17; Fig. 2 shows that different optical paths are transmitted to sensors 31, 41, and 21), focusing evaluation value being obtained according a high frequency component each of images obtained by plurality of first image pickup devices (Fig. 2, HPFs 22, 32, 42) obtained by the plurality of image pickup devices for detecting the focusing status (Figs. 2-3, controller 50; col. 3, lines 24-25; col. 3, lines 54-66; Tw evaluation value is obtained in response to Tq, Tp, Tr signals), the focusing status being determined according to the obtained focusing evaluation value (col. 3, lines 54-68 - col. 4, lines 1-60),

wherein a number of pixels of the plurality second image pickup devices (31,41) is smaller than number of pixels of the first image pickup device (Fig. 2; Image pickup 21; col. 3, lines 1-8; it is noted that the sizes of sensors 31, and 41 are much smaller than the size of the image sensor 21; therefore, the number of pixels of the sensors 31 and 41 must be smaller than

the number of pixels of sensor 21), and focusing status detected within frame range smaller than the entire frame range of the image to be outputted obtained by the first image pickup device (Fig. 2; Col. 3, Ln. 1-5; it is noticed that only part of the image sensor 21 is obtained for auto focus signal; therefore, auto focus detection area is also smaller than the entire frame of the sensor 21).

However, Yamamoto fails to disclose the focusing status detecting apparatus comprising: a plurality of second image focusing status detecting a two-dimensional image.

In the same field of endeavor, Yukawa teaches a plurality of two-dimensional/ area sensors (1-2) wherein only a small portion of the area sensor is used as a line sensor for auto focus detection (Figs. 1, 7, and 17A-17D; focus area 44; Col. 1, Ln. 65-67 –Col. 2, Ln. 1-3; Col. 14, Ln. 45-58; Col. 15, Ln. 1-50). Yukawa further teaches that focus area can be moved across the sensor in order to acquire the most sufficient contrast area for performing focus detection (Figs. 17A-17D; Col. 16, Ln. 30-50). In light of the teaching from Yukawa, it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the line sensor (31 and 41) of Yamamoto with the area sensors as taught by Yukawa in order to utilize only a small portion of the area sensor as a dynamic line sensor which can be moved around. The modifications thus prevent saturation of the area used for automatic focusing and provides an improve focus detection wherein only the most sufficient contrast area is used for focus detection (Yukawa; Col. 16; Ln. 30-50).

With regarding to **claim 8**, Yamamoto in view of Yukawa discloses the focusing status detecting apparatus wherein focusing status detected using digital signals from fewer than all

pixels of plurality of second image pickup devices (Yukawa; as shown in Figs. 17A-17D, pixels within the auto focus area 44 must be fewer than that of the entire area of the sensor).

With regarding to **claim 9**, Yamamoto in view of Yukawa 9 discloses the focusing status detecting apparatus wherein focusing status detected using digital signals from pixels in a predetermined focus area of the plurality of second image pickup devices (Yukawa; Figs. 17A-17D, 20-21; Col. 16, Ln. 30-50; signal from area 44 is used to determine sufficient of the contrast and determine the auto focus).

With regarding to **claim 10**, Yamamoto in view of Yukawa discloses the focusing status detecting apparatus wherein said predetermined focus area comprises central area of wherein said predetermined frame (Yukawa; focus area 44 can be moved to the central portion of the image senors 1 and 2 as shown in Fig. 17D).

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung H. Lam whose telephone number is 571-272-7367. The examiner can normally be reached on Monday - Friday 8AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's primary, NGOC YEN VU can be reached on 571-272-7320. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HL

06/17/05

NGOC-YEN VU
PRIMARY EXAMINER